

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: BUTTERFIELD POND	Lake Area (ha):	4.82
Town: WILMOT	Maximum depth (m):	6.8
County: Merrimack	Mean depth (m):	1.9
River Basin: Merrimack	Volume (m ³):	92000
Latitude: 43°29'09" N	Relative depth:	2.7
Longitude: 71°58'05" W	Shore configuration:	1.28
Elevation (ft): 1360	Areal water load (m/yr):	6.23
Shore length (m): 1000	Flushing rate (yr ⁻¹):	3.30
Watershed area (ha): 49.2	P retention coeff.:	0.62
% watershed ponded: 0.0	Lake type:	natural w/dam

BIOLOGICAL:

27 February 1997

10 July 1996

DOM. PHYTOPLANKTON (% TOTAL)	#1	DINOBYRON 99%	MALLOMONAS 99%
	#2		
	#3		
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			3.23
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 63%	KERATELLA 86%
	#2		KELLICOTTIA 6%
	#3		HOLOPEDIDIUM 3%
ROTIFERS/LITER		45	368
MICROCRUSTACEA/LITER		3	24
ZOOPLANKTON ABUNDANCE (#/L)		49	394
VASCULAR PLANT ABUNDANCE			Common
SECCHI DISK TRANSPARENCY (m)			4.3
BOTTOM DISSOLVED OXYGEN (mg/L)		1.9	0.5
BACTERIA (E. coli, #/100 ml)	#1		< 1
	#2		< 1
	#3		

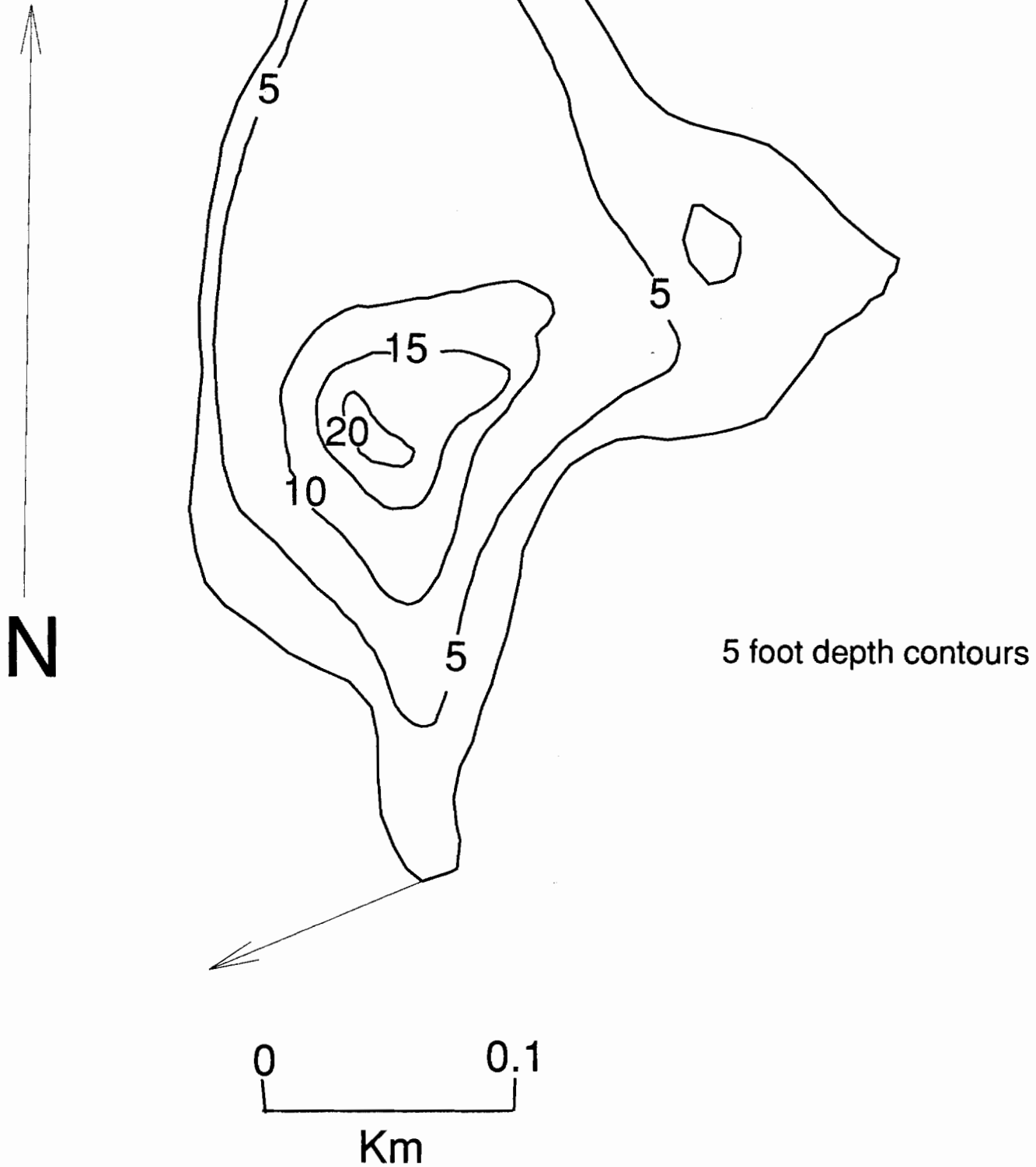
SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m):	4.2
Hypolimnion volume (m ³):	90
Anoxic volume (m ³):	200

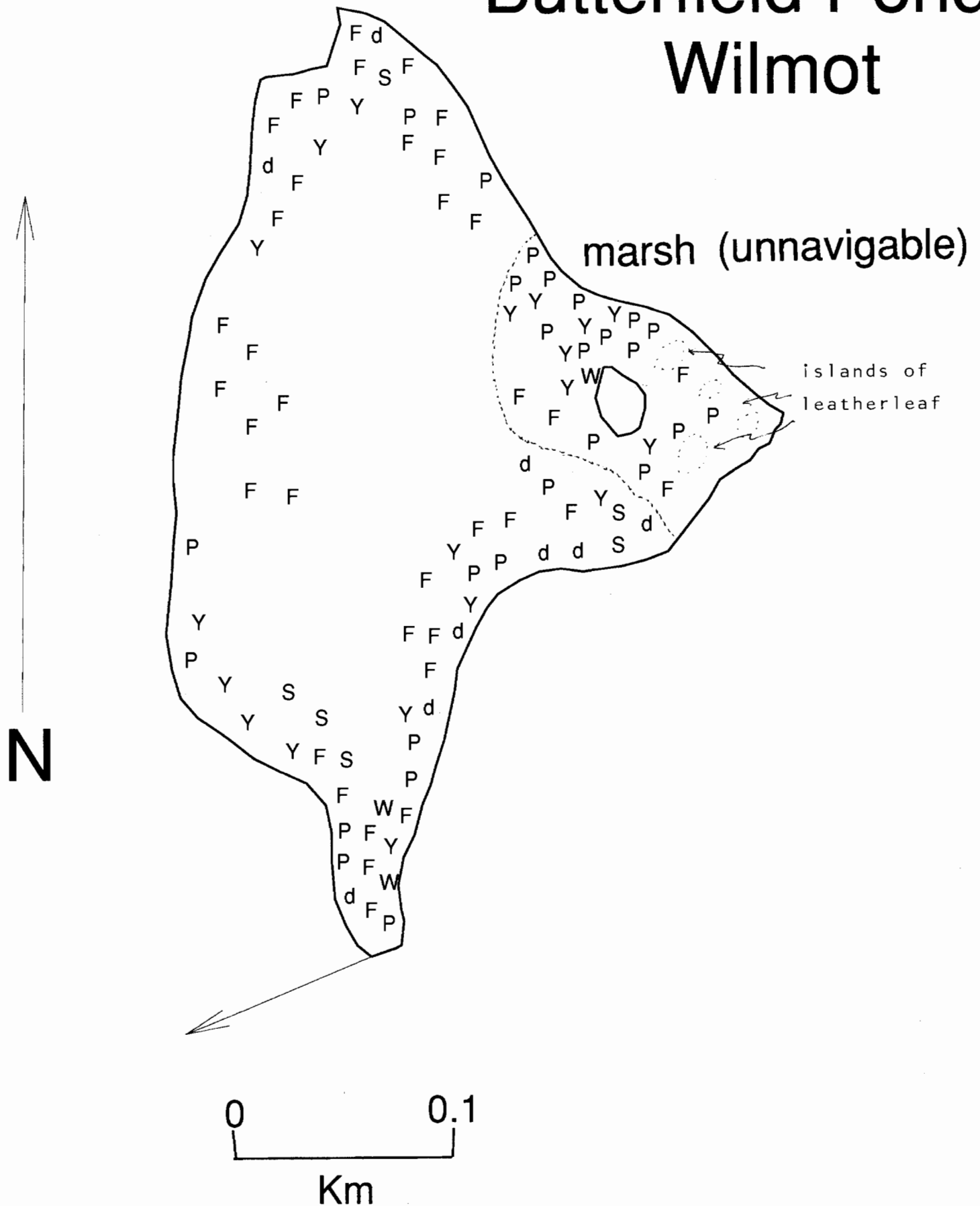
CHEMICAL:		Lake: BUTTERFIELD POND Town: WILMOT			
	27 February 1997		10 July 1996		
DEPTH (m)	2.0	4.0	2.0		4.0
pH (units)	5.4	5.5	5.3		5.2
A.N.C. (Alkalinity)	1.1	2.1	0.4		0.4
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.29	0.33	0.16		0.30
TOTAL PHOSPHORUS	0.011	0.012	0.011		0.010
CONDUCTIVITY (μ mhos/cm)	21.4	24.0	18.9		19.5
APPARENT COLOR (cpu)	11	14	25		30
MAGNESIUM			0.27		
CALCIUM			1.1		
SODIUM			< 1.0		
POTASSIUM			< 0.40		
CHLORIDE	< 2	< 2	< 2		< 2
SULFATE	4	4	5		4
TN : TP	26	28	15		30
CALCITE SATURATION INDEX			6.4		
All results in mg/L unless indicated otherwise					
TROPHIC CLASSIFICATION: 1996					
	D.O.	S.D.	PLANT	CHL	TOTAL CLASS
	4	2	3	0	9 Meso.
COMMENTS:					
1.	This is a remote, headwater pond that was sampled jointly with the Fish and Game Department.				
2.	It is a relatively clear, acid pond with essentially no buffering capacity (ANC).				
3.	No motorboats are allowed on the pond.				
4.	The summer net phytoplankton was almost exclusively one species (<i>Mallomonas</i>) and the zooplankton was strongly dominated by an abundant number of the rotifer <i>Keratella</i> .				
5.	A very tiny hypolimnion was present and it was completely anoxic.				

Butterfield Pond Wilmot



[illegible]

Butterfield Pond Wilmot



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